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ABSTRACT

This survey concerns the enrollment of junior year students in specified areas or fields during the fall of 1972. Its aim was to obtain information about trends in choice of major field in advance of the usual data on baccalaureates granted and thus to assist graduate departments in planning for enrollments in specified areas. Over all fields, junior year enrollment increased 3.2% from fall 1971 to fall 1972. The largest increase occurred in the major area of health professions (19.5%) and was largest in the public universities (25.8%). The life sciences were next, increasing by 12.8% in junior year enrollment. The applied social sciences and business and commerce were the next two, showing overall increases of 8.3% and 7.1% respectively. Moderate gains were noted in the public sector and slight losses noted in the private sector. (HS)

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Survey No. 12

April 23, 1973

Enrollment of Junior-Year Students (1971 and 1972)

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This survey of the Higher Education Panel (HEP), initiated in September 1972, concerns the enrollment of junior-year students in specified areas or fields during the fall of 1972. Its aim was to obtain information about trends in choice of major field in advance of the usual data on baccalaureates granted and thus to assist graduate departments in planning for enrollments in specified areas.

The questionnaire was mailed to 414 institutions out of the population of 1,523 four-year institutions. (See Appendix A for a description of the sampling and weighting procedures.) Responses were received from 348 institutions, for a response rate of 84 percent. Each respondent was asked to indicate the junior-year enrollment in certain defined fields during fall 1971 and fall 1972. (See Appendix B for a copy of the survey instrument and Appendix C for a list of major fields and their definitions.) For purposes of this survey, a junior-year student was defined as one who had completed two full-time years (or the equivalent in part-time study) of degree-credit work and who was enrolled for the third year of such work. This definition covers third-year preprofessional students but not students enrolled

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solely for the first professional degrees. Double or split majors were categorized in the field of greater specialization.

### Discussion

The data from this survey are reported in seven tables. These tables show weighted population estimates, confidence intervals associated with these estimates, and percentage changes between 1971 and 1972 separately for the following categories: all institutions, public universities, private universities, public four-year colleges, and private four-year colleges. All calculations exclude students who had not declared majors by their junior year.

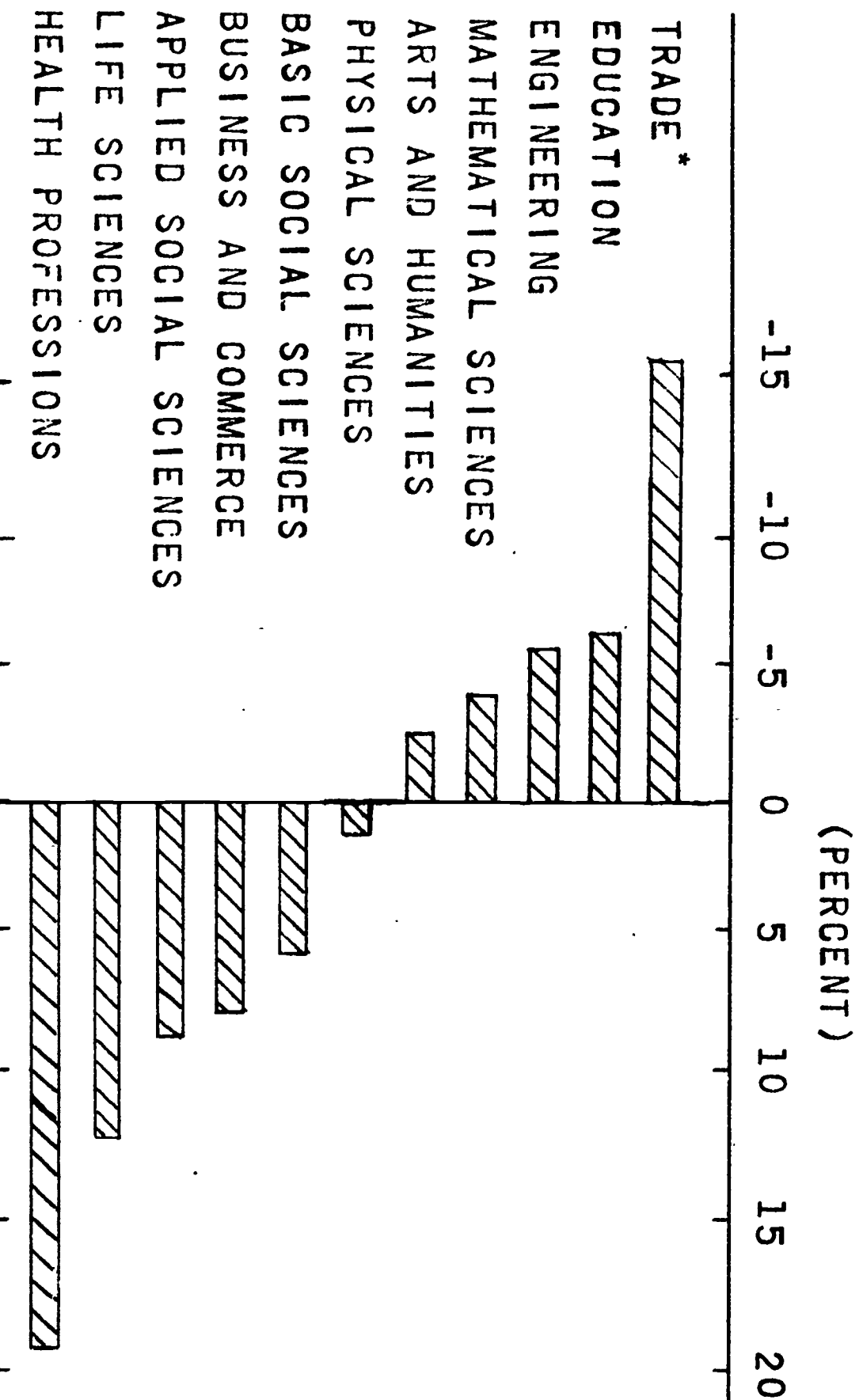
Over all fields, junior-year enrollment increased 3.2 percent from the fall of 1971 to the fall of 1972. The largest increase occurred in the major area of health professions (19.5 percent) and was largest in the public universities (25.8 percent). The life sciences were next, increasing by 12.8 percent in junior-year enrollment; again, this growth was most evident in the public universities (21.4 percent). The applied social sciences and business and commerce were the next two, showing overall increases of 8.3 percent and 7.1 percent respectively. The basic social sciences also increased in enrollment from 1971 to 1972 (5.6 percent). Moderate gains were noted in the public sector and slight losses noted in the private sector. The final major field showing an increase was physical sciences posting an increase of 1.9 percent. Both public and private universities show an increase in enrollment in the physical sciences while the four-year colleges show slight decreases.

Between fall 1971 and fall 1972, enrollment in education and engineering declined consistently across the four types of institutions. Mathematical sciences declined in all but the private university sector and arts and humanities declined in all but the public university sector. In both instances the increases were moderate, approximating two percent. Trade and industrial training showed an increase in both public universities and public four-year colleges.

The percent change in junior-year enrollment has been greatest in public institutions. Public universities have posted the greatest gain (5.8 percent), public four-year colleges have increased 2.4 percent, while the private sector has increased its junior-year enrollment only 1.1 percent.

Figure 1

# PERCENT CHANGE IN MAJORS DECLARED BY JUNIOR-YEAR STUDENTS, 1971 TO 1972



\* Trade only - weights based on ratio of population institutions to sample institutions (see Appendix for further explanation).

Table 1

Field Enrollment of Junior-Year Students at  
All Institutions  
(N = 1,523)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>214,433</u>	21,587	<u>208,580</u>	25,787	-2.7
English and Journalism	63,225	6,448	58,985	7,498	-6.7
Foreign Languages	18,787	3,641	18,339	3,627	-2.4
History	44,885	5,102	41,012	6,167	-8.6
Other Arts and Humanities	89,793	11,072	93,133	12,158	3.7
<u>Business and Commerce</u>	<u>143,370</u>	20,664	<u>153,523</u>	21,915	7.1
<u>Education</u>	<u>152,829</u>	27,186	<u>144,549</u>	21,849	-5.4
<u>Engineering</u>	<u>47,750</u>	4,367	<u>45,222</u>	4,854	-5.3
<u>Health Professions</u>	<u>43,151</u>	5,802	<u>51,563</u>	6,055	19.5
Medical Technology	4,982	648	5,942	667	19.3
Nursing	19,477	1,559	22,600	1,503	16.0
Occupational Therapy	849	305	824	209	-2.9
Pharmacy	6,272	2,244	7,769	2,021	23.9
Physical Therapy	1,239	697	2,657	509	114.4
Speech Pathology/ Audiology	7,772	627	7,347	585	-5.5
Other Health Professions **	7,633	4,015	8,964	601	17.4
<u>Life Sciences</u>	<u>78,451</u>	7,256	<u>88,501</u>	8,435	12.8
Pre dental	3,304	937	2,128	937	-35.6
Premedical	7,325	3,039	10,100	3,037	37.9
Preveterinary	763	340	1,447	188	89.6
Basic Medical Sciences	2,531	846	2,526	497	-0.2
Biology	30,654	4,699	40,123	4,960	30.9
Botany	1,422	157	1,860	128	30.8
Zoology	5,608	1,551	6,437	1,273	14.8
Other Life Sciences **	21,685	6,389	22,126	7,349	2.0
<u>Mathematical Sciences</u>	<u>33,208</u>	2,663	<u>31,760</u>	3,045	-4.4
<u>Physical Sciences</u>	<u>27,017</u>	2,296	<u>27,537</u>	2,286	1.9
Chemistry	12,529	982	12,890	1,124	2.9
Physics	6,179	618	5,920	534	-4.2
Other Physical Sciences	9,206	1,228	9,590	1,095	4.2
<u>Basic Social Sciences</u>	<u>163,207</u>	15,843	<u>172,350</u>	17,069	5.6
Psychology	49,922	4,585	53,234	5,025	6.6
Other Basic Social Sciences	113,483	13,190	119,321	13,039	5.1
<u>Applied Social Sciences</u>	<u>15,609</u>	4,517	<u>16,900</u>	4,091	8.3
<u>Trade and Industrial Training **</u>	<u>11,579</u>	5,256	<u>9,810</u>	4,591	-15.3
<u>All Other Fields</u>	<u>98,827</u>	60,745	<u>102,314</u>	59,113	3.5
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>1,076,475</u>	128,629	<u>1,110,860</u>	129,885	3.2

\* 95% confidence interval (interpreted as + or -). \*\* Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 2

Field Enrollment of Junior-Year Students in  
All Public Institutions  
(N=492)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>137,246</u>	21,233	<u>136,161</u>	25,483	-.8
English and Journalism	42,568	6,343	40,482	7,402	-4.9
Foreign Languages	11,666	3,605	11,294	3,583	-3.2
History	27,567	4,958	25,972	6,040	-5.8
Other Arts and Humanities	56,146	10,667	59,567	11,807	6.1
<u>Business and Commerce</u>	<u>105,298</u>	20,420	<u>112,375</u>	21,744	6.7
<u>Education</u>	<u>123,245</u>	27,018	<u>116,020</u>	21,586	-5.9
<u>Engineering</u>	<u>34,493</u>	3,854	<u>32,878</u>	4,281	-4.7
<u>Health Professions</u>	<u>31,032</u>	5,613	<u>36,797</u>	5,921	18.6
Medical Technology	3,695	625	4,445	643	20.3
Nursing	12,049	1,469	14,071	1,414	16.8
Occupational Therapy	769	305	744	208	-3.2
Pharmacy	4,930	2,235	6,249	2,006	26.7
Physical Therapy	457	689	832	441	82.1
Speech Pathology/Audiology	6,178	574	5,629	576	-8.9
Other Health Professions**	6,514	3,972	7,472	4,245	14.7
<u>Life Sciences</u>	<u>56,611</u>	7,062	<u>63,508</u>	8,250	12.2
Pre dental	2,630	622	1,478	580	-43.8
Pre medical	6,066	2,788	8,408	2,624	38.6
Pre veterinary	752	340	1,433	188	90.6
Basic Medical Sciences	1,894	782	2,072	418	9.4
Biology	17,258	4,576	24,536	4,827	42.2
Botany	1,302	156	1,824	128	35.2
Zoology	5,049	15,431	5,824	1,271	15.3
Other Life Sciences **	19,211	6,304	19,653	7,282	2.3
<u>Mathematical Sciences</u>	<u>23,879</u>	2,557	<u>22,719</u>	2,967	-4.9
<u>Physical Sciences</u>	<u>17,965</u>	2,182	<u>18,374</u>	2,117	2.3
Chemistry	7,436	907	7,853	1,040	5.6
Physics	3,769	583	3,745	494	.6
Other Physical Sciences	7,650	1,170	7,757	994	1.4
<u>Basic Social Sciences</u>	<u>107,676</u>	15,617	<u>117,640</u>	16,847	9.2
Psychology	31,833	4,459	34,722	4,897	9.1
Other Basic Social Sciences	75,988	13,008	83,119	12,860	9.4
<u>Applied Social Sciences</u>	<u>13,713</u>	4,485	<u>14,097</u>	4,003	2.8
<u>Trade and Industrial Training**</u>	<u>9,099</u>	4,771	<u>8,693</u>	4,869	-4.5
<u>All Other Fields</u>	<u>85,846</u>	60,662	<u>91,717</u>	59,040	6.8
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>780,790</u>	128,265	<u>811,847</u>	129,447	4.0

\* 95% confidence interval (interpreted as + or -). \*\* Weights based on the ratio of population institutions to sample institutions. (See Appendix A for further explanation)

Table 3

Enrollment of Junior-Year Students By Field in  
All Private Institutions

(N=1031)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>77,187</u>	3,891	<u>72,419</u>	3,947	-6.2
English and Journalism	20,656	1,160	18,503	1,191	-10.4
Foreign Languages	7,121	507	7,045	561	-13.1
History	17,318	1,202	15,040	1,243	-13.1
Other Arts and Humanities	33,647	2,966	33,566	2,901	-.2
<u>Business and Commerce</u>	<u>38,072</u>	3,166	<u>41,149</u>	2,727	8.1
<u>Education</u>	<u>29,584</u>	3,019	<u>28,529</u>	3,383	-3.6
<u>Engineering</u>	<u>13,256</u>	2,054	<u>12,345</u>	2,287	-6.9
<u>Health Professions</u>	<u>12,119</u>	1,470	<u>14,765</u>	1,268	21.8
Medical Technology	1,287	173	1,497	177	16.3
Nursing	7,427	520	8,529	511	14.8
Occupational Therapy	80	--	80	--	.0
Pharmacy	1,341	197	1,520	241	13.3
Physical Therapy	782	108	1,826	252	133.5
Speech Pathology/Audiology	1,594	251	1,717	104	7.7
Other Health Professions **	1,119	587	1,492	687	33.3
<u>Life Sciences</u>	<u>21,840</u>	1,664	<u>24,994</u>	1,759	14.4
Pre dental	673	701	651	736	-3.3
Premedical	1,259	1,210	1,693	1,529	34.5
Preveterinary	11	--	14	--	27.3
Basic Medical Sciences	637	322	454	269	-30.9
Biology	13,396	1,070	15,587	1,143	16.4
Botany	121	14	100	4	-17.3
Zoology	560	154	613	53	9.5
Other Life Sciences **	2,474	1,038	2,473	989	0.0
<u>Mathematical Sciences</u>	<u>9,328</u>	742	<u>9,040</u>	684	-3.1
<u>Physical Sciences</u>	<u>9,052</u>	715	<u>9,163</u>	864	1.2
Chemistry	5,093	376	5,037	424	-1.1
Physics	2,411	206	2,175	204	-9.8
Other Physical Sciences	1,556	372	2,033	460	30.6
<u>Basic Social Sciences</u>	<u>55,531</u>	2,673	<u>54,690</u>	2,744	-1.5
Psychology	18,089	1,066	18,512	1,125	2.3
Other Basic Social Sciences	37,495	2,182	36,202	2,154	-3.4
<u>Applied Social Sciences</u>	<u>1,895</u>	537	<u>2,803</u>	847	47.9
<u>Trade and Industrial Training **</u>	<u>2,480</u>	2,205	<u>1,117</u>	896	-54.9
<u>All Other Fields</u>	<u>12,981</u>	3,165	<u>10,597</u>	2,926	-18.4
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>295,685</u>	9,677	<u>298,833</u>	10,432	1.1

\* 95% confidence interval (interpreted as + or -). \*\* Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)



Table 4

Field Enrollment of Junior-Year Students at  
All Public Universities  
(N = 119)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	60,740	10,685	61,893	9,630	1.9
English and Journalism	19,524	3,689	18,823	3,121	-3.6
Foreign Languages	4,716	3,352	4,742	3,134	.5
History	10,139	2,359	9,842	1,983	-2.9
Other Arts and Humanities	27,314	7,528	29,541	7,467	8.9
<u>Business and Commerce</u>	43,840	13,781	45,599	11,701	4.0
<u>Education</u>	49,052	23,175	45,939	18,268	-6.3
<u>Engineering</u>	21,061	2,728	20,290	2,773	-3.7
<u>Health Professions</u>	16,227	3,667	20,418	3,597	25.8
Medical Technology	2,047	421	2,263	421	10.5
Nursing	6,919	697	7,611	730	10.0
Occupational Therapy	699	305	666	197	-.4
Pharmacy	4,250	2,220	5,316	1,962	25.1
Physical Therapy	371	688	714	439	92.4
Speech Pathology/Audiology	816	476	2,329	395	185.4
Other Health Professions**	1,802	968	2,447	1,196	35.8
<u>Life Sciences</u>	32,028	6,148	38,892	6,696	21.4
Pre dental	657	610	863	481	31.3
Pre medical	2,967	2,787	3,424	2,620	15.4
Pre veterinary	688	336	1,364	187	98.2
Basic Medical Sciences	1,226	769	1,295	378	5.6
Biology	6,087	2,650	10,406	2,684	70.9
Botany	271	138	322	108	16.2
Zoology	3,722	1,305	4,261	845	14.5
Other Life Sciences**	14,734	5,657	16,216	6,972	10.1
<u>Mathematical Sciences</u>	9,869	1,767	9,314	1,805	-5.6
<u>Physical Sciences</u>	7,844	1,437	8,318	1,292	6.0
Chemistry	3,169	595	3,433	703	8.3
Physics	1,533	269	1,607	238	4.8
Other Physical Sciences	3,646	796	3,770	696	3.4
<u>Basic Social Sciences</u>	49,862	10,445	52,522	9,095	5.3
Psychology	13,573	2,704	14,828	2,594	9.2
Other Basic Social Sciences	36,183	9,782	37,601	8,342	3.9
<u>Applied Social Sciences</u>	5,358	1,096	5,509	1,271	2.8
<u>Trade and Industrial Training</u> **	4,782	3,752	4,253	3,457	-11.1
<u>All Other Fields</u>	55,305	60,071	61,690	58,619	11.5
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	368,837	107,852	390,113	98,150	5.8

\* 95% confidence interval (interpreted as + or -). \*\* Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 5

Field Enrollment of Junior-Year Students at  
All Private Universities  
(N = 67)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>20,300</u>	1,471	<u>19,166</u>	1,690	-5.6
English and Journalism	5,717	576	5,472	603	-4.3
Foreign Languages	1,892	192	1,884	222	-.4
History	4,097	532	3,674	643	-10.3
Other Arts and Humanities	9,885	1,199	9,432	1,165	-4.6
<u>Business and Commerce</u>	<u>10,404</u>	1,235	<u>10,637</u>	1,104	.4
<u>Education</u>	<u>5,235</u>	1,482	<u>4,860</u>	1,514	-7.2
<u>Engineering</u>	<u>5,384</u>	1,811	<u>4,893</u>	2,138	-9.1
<u>Health Professions</u>	<u>4,683</u>	696	<u>5,530</u>	915	15.7
Medical Technology	205	65	198	95	-3.4
Nursing	2,534	240	3,218	325	26.9
Occupational Therapy	--	--	--	--	--
Pharmacy	477	192	472	234	-1.0
Physical Therapy	327	108	426	249	30.3
Speech Pathology/Audiology**	1,413	191	1,215	83	-14.0
Other Health Professions	459	430	566	507	20.3
<u>Life Sciences</u>	<u>7,837</u>	1,377	<u>9,123</u>	1,467	16.4
Pre dental	269	699	219	734	-18.6
Premedical	824	1,209	1,145	1,527	39.0
Preveterinary	--	--	--	--	--
Basic Medical Sciences	565	320	334	266	-40.9
Biology	3,391	433	4,148	696	22.3
Botany	78	--	54	--	-30.8
Zoology	480	--	503	--	4.8
Other Life Sciences **	1,004	840	1,026	802	2.2
<u>Mathematical Sciences</u>	<u>2,367</u>	296	<u>2,202</u>	289	-7.0
<u>Physical Sciences</u>	<u>2,755</u>	290	<u>3,098</u>	636	12.4
Chemistry	1,436	197	1,484	261	3.3
Physics	817	136	734	158	-10.2
Other Physical Sciences	490	163	946	370	93.1
<u>Basic Social Sciences</u>	<u>17,110</u>	1,328	<u>17,033</u>	1,340	-.5
Psychology	5,368	724	5,541	690	3.2
Other Basic Social Sciences	11,638	872	11,353	922	-2.4
<u>Applied Social Sciences</u>	<u>425</u>	414	<u>1,182</u>	765	178.1
<u>Trade and Industrial Training</u> **	<u>348</u>	525	<u>758</u>	655	117.8
<u>All Other Fields</u>	<u>3,177</u>	2,299	<u>1,210</u>	1,809	-43.1
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>80,743</u>	4,230	<u>81,506</u>	5,015	.9

\* 95% confidence interval (interpreted as + or -). \*\*Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 6

Field Enrollment of Junior-Year Students at  
All Public Four-Year Colleges  
(N = 373)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>76,506</u>	18,349	<u>74,268</u>	23,593	-2.9
English and Journalism	23,044	5,160	21,460	6,712	-6.0
Foreign Languages	6,950	1,328	6,552	1,738	-5.7
History	17,428	4,361	16,130	5,705	-7.4
Other Arts and Humanities	28,832	7,557	30,026	9,146	4.1
<u>Business and Commerce</u>	<u>61,459</u>	15,069	<u>66,775</u>	18,328	8.6
<u>Education</u>	<u>74,193</u>	13,889	<u>70,081</u>	11,498	-5.5
<u>Engineering</u>	<u>13,432</u>	2,722	<u>12,588</u>	3,261	-6.3
<u>Health Professions</u>	<u>14,805</u>	4,250	<u>16,379</u>	4,703	10.6
Medical Technology	1,648	462	2,182	486	32.4
Nursing	5,130	1,293	6,460	1,211	25.9
Occupational Therapy	70	--	78	--	11.4
Pharmacy	679	257	933	418	37.4
Physical Therapy	85	29	117	49	37.6
Speech Pathology/Audiology	5,362	321	3,301	419	-38.4
Other Health Professions **	4,711	3,852	5,025	4,073	6.7
<u>Life Sciences</u>	<u>24,584</u>	3,476	<u>24,616</u>	4,819	.1
Pre dental	1,973	122	615	324	-68.8
Pre medical	3,100	93	4,983	138	60.7
Preveterinary	63	53	69	20	9.5
Basic Medical Sciences	668	145	777	179	16.3
Biology	11,171	3,730	14,130	4,011	26.5
Botany	1,013	73	1,438	68	42.0
Zoology	1,327	824	1,563	950	17.8
Other Life Sciences **	4,477	2,782	3,437	2,102	-23.2
<u>Mathematical Sciences</u>	<u>14,010</u>	1,849	<u>13,405</u>	2,355	-4.3
<u>Physical Sciences</u>	<u>10,121</u>	1,642	<u>10,056</u>	1,677	-.6
Chemistry	4,267	685	4,420	767	3.6
Physics	2,236	517	2,138	433	-.1
Other Physical Sciences	4,004	857	3,786	709	-5.4
<u>Basic Social Sciences</u>	<u>57,814</u>	11,609	<u>65,119</u>	14,181	12.6
Psychology	18,260	3,546	19,894	4,153	8.9
Other Basic Social Sciences	39,805	8,574	45,518	9,787	14.4
<u>Applied Social Sciences</u>	<u>8,355</u>	4,349	<u>8,587</u>	3,795	2.8
<u>Trade and Industrial Training</u> **	<u>4,316</u>	2,946	<u>4,439</u>	3,393	2.8
<u>All Other Fields</u>	<u>30,542</u>	8,451	<u>30,027</u>	7,042	-1.7
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>411,953</u>	69,425	<u>421,734</u>	84,427	2.4

\* 95% confidence interval (interpreted as + or -). \*\*Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

Table 7

Field Enrollment of Junior-Year Students at  
All Private Four-Year Colleges  
(N = 964)

Major Area or Field	Number of Junior-Year Students Enrolled				Percent Change
	Fall 1971	Confidence Interval*	Fall 1972	Confidence Interval*	
<u>Arts and Humanities</u>	<u>56,887</u>	3,602	<u>53,253</u>	3,567	-6.4
English and Journalism	14,939	1,007	13,030	1,028	-14.6
Foreign Languages	5,230	469	5,161	516	-1.3
History	13,221	1,078	11,365	1,065	-14.0
Other Arts and Humanities	23,763	2,713	24,134	2,657	1.6
<u>Business and Commerce</u>	<u>27,668</u>	2,916	<u>30,512</u>	2,493	10.3
<u>Education</u>	<u>24,349</u>	2,631	<u>23,670</u>	3,025	-2.8
<u>Engineering</u>	<u>7,873</u>	971	<u>7,452</u>	813	-5.3
<u>Health Professions</u>	<u>7,437</u>	1,295	<u>9,236</u>	877	24.2
Medical Technology	1,082	161	1,299	149	20.0
Nursing	4,893	462	5,311	395	8.5
Occupational Therapy	80	--	80	--	0
Pharmacy	865	45	1,048	59	21.2
Physical Therapy	455	11	1,400	39	207.7
Speech Pathology/Audiology	181	163	502	62	177.3
Other Health Professions **	660	399	925	463	40.1
<u>Life Sciences</u>	<u>14,003</u>	933	<u>15,870</u>	971	1.3
Pre dental	404	51	432	47	6.9
Premedical	435	54	547	53	25.7
Preveterinary	11	--	14	--	27.3
Basic Medical Sciences	73	28	120	39	64.4
Biology	10,005	979	11,439	906	14.3
Botany	43	14	46	4	7.0
Zoology	80	154	110	53	37.5
Other Life Sciences **	1,470	610	1,447	579	-1.6
<u>Mathematical Sciences</u>	<u>6,962</u>	681	<u>6,838</u>	620	-1.8
<u>Physical Sciences</u>	<u>6,297</u>	654	<u>6,065</u>	585	-3.7
Chemistry	3,657	320	3,553	335	-2.8
Physics	1,594	155	1,441	129	-9.6
Other Physical Sciences	1,066	334	1,087	273	2.0
<u>Basic Social Sciences</u>	<u>38,421</u>	2,320	<u>37,657</u>	2,395	-2.0
Psychology	12,720	783	12,970	888	1.9
Other Basic Social Sciences	25,857	2,000	24,849	1,947	-3.9
<u>Applied Social Sciences</u>	<u>1,470</u>	342	<u>1,621</u>	364	10.3
<u>Trade and Industrial Training **</u>	<u>2,132</u>	2,143	<u>359</u>	611	-83.2
<u>All Other Fields</u>	<u>9,805</u>	2,175	<u>9,387</u>	2,300	-4.3
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	<u>214,942</u>	8,704	<u>217,327</u>	9,147	1.1

\* 95% confidence interval (interpreted as + or -). \*\*Weights based on the ratio of population institutions to sample institutions (See Appendix A for further explanation)

## Appendix A

### Sampling and Weighting Procedures

The eligible population for this survey consisted of 1523 institutions (1252 predominantly white four-year colleges, 85 predominantly black four-year colleges, and undergraduate divisions of 186 universities). It is noted that the population counts represented in the tables of this report sum to 1491. The discrepancy between the eligible population of 1523 and the reported table count of 1491 is due to the codification of the available population figures. Data for "system" and "all campus" institutions were reported as one institution. Where more than one of the "system" institutions participated in the sample, the data were collapsed into a single record and identified as the "system" institution in both the population and sample. This procedure accounted for the reduction in population counts from 1523 to 1491.

Data on junior-year enrollments were solicited by mail from a sample of 414 institutions (27 percent of the eligible population). Returns were received from 348 institutions (84 percent). Of these, 21 were unable to provide data for 1971 and three were unable to provide data for 1972. Consequently, the enrollment data presented for fall 1971 is based on returns from 327 institutions, and the enrollment data for fall 1972 is based on returns from 345 institutions. Because of this differential response rate for the two years, data were weighted separately for each year to provide estimates of population enrollments and to increase the comparability of the data.

The population of 1491 institutions was classified into the following eight strata, defined by direct collapse of 26 strata used for universities and four-year colleges in the American Council on Education's Cooperative Institutional Research Program.

- Stratum I: Public universities with Selectivity less than 550.
- Stratum II: Public universities with Selectivity of 550 or more
- Stratum III: Private universities
- Stratum IV: Public four-year colleges with Selectivity 500 or unknown, and all public predominantly black institutions.
- Stratum V: Public four-year institutions with Selectivity of 500 or more
- Stratum VI: All four-year private nonsectarian colleges
- Stratum VII: All four-year Roman Catholic colleges
- Stratum VIII: All other sectarian four-year colleges

The junior-year enrollment estimates reported in the sample by responding institutions were weighted to provide aggregate estimates of population enrollments. The aggregate estimator used was:

$$x'_r = \sum_{h=1}^L \frac{z_h \sum_{i=1}^{n_h} w_h x_{hi}}{\sum_{i=1}^{n_h} w_h z_{hi}}$$

where  $w_h$  is a stratum weight, the ratio of the number of institutions in the population to that in the sample for the  $h^{th}$  stratum.

$x_{hi}$  is the junior-year enrollment reported by the  $i^{th}$  sample institution in the  $h^{th}$  stratum.

$z_{hi}$  is the baccalaureate count in the corresponding field (or field aggregate) reported to HEGIS VI for the  $i^{th}$  sample institution in the  $h^{th}$  stratum.

$z_h$  is the total baccalaureate count in the corresponding field (or field aggregate) reported to HEGIS VI for the  $h^{th}$  stratum.

$L$  is the number of strata defining a reporting category.

The HEGIS baccalaureate production information was used to provide a ratio adjustment factor in these estimates. In the absence of information

about junior-year enrollments by fields for each population institution (indeed the point of the sample survey), baccalaureate production was chosen as the most highly correlated information available for this adjustment. Note that separate ratio adjustments were made for each field estimate.

To estimate the precision of these estimators, the absolute variance was computed as:

$$\sigma_{X_r'}^2 = \sigma_X^2 + \sigma_Z^2 - 2r_{xy}\sigma_X\sigma_Z$$

where  $\sigma_X^2$  is the estimated population variance of the junior-year enrollments,  $\sigma_Z^2$  is the estimated population variance of the baccalaureate counts, and the last term is twice the covariance between them. Each of these terms were separately estimated from the sample data within strata and combined across strata to estimate the population variance in the reporting category, which consisted in each case of one or more strata.

The 95 percent confidence limits appearing in the tables were obtained by taking the square root of the absolute variance of the estimator and multiplying it by 1.96. Thus, the total junior-year enrollment of approximately 1.1 million estimated for each year has a confidence limit of approximately 129,000.

In the case of trade and industrial training fields, baccalaureate information was available only in combination with other engineering technologies, so that the estimate could not be ratio adjusted. The weights in each stratum were computed as the ratio of the cumulated enrollments for the population institutions to the enrollments for the sample institutions in that stratum. In some of the life sciences and health fields, only a single institution appeared in the sample in which case a variance estimate could not be derived.

The estimates presented for "Other Health Professions" and "Other Life Sciences" were derived using weights obtained by computing the ratio of the number of institutions in the population to the number of institutions in the sample for each stratum. This procedure was used since baccalaureate information for the sample institutions was minimal providing an insufficient base rate to justify the use of ratio estimation procedures.

Please note that the summation of estimates given for sub-fields within major disciplines will not equal the estimate given for the major discipline. Each sub-field was estimated using only those institutions which offered courses within the sub-field itself. Likewise the major discipline estimates were based on those institutions offering courses within the discipline. Table A1 reports for all institutions the number of institutions used to estimate each major area or field for the sample and the population. This procedure was implemented independently for each stratum. The number of institutions in Table A1 represents the field distributions for all institutions. Weights were derived for each field by year by stratum. The resulting range of weights for each field and year for the eight strata is also presented in Table A1.



Table A1  
Sample and Weights Used in Computing National Enrollment Figures  
All Institutions

Major Area or Field	Number of Institutions In:			Stratum Weights (Range)	
	Population	1971 Sample	1972 Sample	1971	1972
<u>Arts and Humanities</u>	1360	314	331	2.66- 7.65	2.66- 7.03
English and Journalism	1228	304	321	2.61- 7.44	2.61- 5.14
Foreign Languages	1119	277	295	2.62- 7.28	2.62- 6.58
History	1195	299	315	2.61- 7.27	2.61- 6.66
Other Arts and Humanities	1240	304	320	2.66- 6.75	2.66- 6.20
<u>Business and Commerce</u>	762	215	231	2.71- 7.21	2.70- 5.29
<u>Education</u>	1077	247	262	2.73- 7.78	2.83- 7.11
<u>Engineering</u>	389	100	112	2.50- 6.12	2.16- 5.53
<u>Health Professions</u>	611	164	186	2.68- 6.48	2.35- 5.71
Medical Technology	431	107	124	2.80- 6.23	2.44- 5.50
Nursing	290	92	107	2.20- 4.88	2.20- 3.69
Occupational Therapy	30	7	11	2.00- 5.50	1.50- 5.50
Pharmacy	76	27	31	1.33- 7.00	1.00- 7.00
Physical Therapy	72	20	32	1.50- 6.00	1.33- 4.00
Speech Pathology/Audiology	123	40	49	1.75- 4.00	1.60- 7.00
Other Health Professions *	1491	347	347	2.50- 7.60	2.50- 7.60
<u>Life Sciences</u>	1206	304	322	2.58- 7.61	2.58- 6.81
Pre dental	155	60	66	1.00- 5.43	1.00- 4.00
Pre medical	206	93	108	1.00- 3.61	1.00- 3.36
Preveterinary	46	22	25	1.00- 4.25	1.00- 4.00
Basic Medical Sciences	131	45	48	1.50- 5.80	1.50- 5.00
Biology	1153	289	306	2.54- 7.50	2.54- 6.86
Botany	106	29	30	1.67-11.50	1.66-11.50
Zoology	137	31	33	2.27- 9.25	2.00- 9.25
Other Life Sciences *	1491	347	347	2.50- 7.60	2.50- 7.60
<u>Mathematical Sciences</u>	1188	305	322	2.69- 7.03	2.69- 6.46
<u>Physical Sciences</u>	1120	295	316	2.69- 7.12	2.69- 6.53
Chemistry	1068	291	310	2.69- 7.29	2.69- 6.65
Physics	723	234	249	2.11- 5.85	2.11- 5.24
Other Physical Sciences	544	156	173	2.42- 6.00	2.21- 5.54
<u>Basic Social Sciences</u>	1229	303	320	2.67- 7.64	2.66- 7.00
Psychology	1010	302	289	2.58- 6.62	2.58- 6.00
Other Basic Social Sciences	1208	299	316	2.67- 7.78	2.66- 7.11
<u>Applied Social Sciences</u>	317	109	116	1.86- 5.69	1.80- 5.00
<u>Trade and Industrial Training*</u>	1491	347	347	2.50- 7.60	2.50- 7.60
<u>All Other Fields</u>	886	258	273	2.69- 6.03	2.48- 5.36
<u>TOTAL JUNIOR YEAR ENROLLMENT</u>	1491	327	345	2.69- 8.15	2.69- 7.49

Weights based on the ratio of population institutions to sample institutions  
(See Appendix for further explanation)

Appendix B  
Higher Education Panel--Survey No. 12  
Enrollment of Junior-Year Students By Field

Major Area or Field	Number of Junior-Year Students Enrolled	
	Fall 1971	Fall 1972
<u>Arts and Humanities-TOTAL</u>	[ ]	[ ]
English and Journalism	_____	_____
Foreign Languages	_____	_____
History	_____	_____
Other Arts and Humanities	_____	_____
<u>Business and Commerce</u>	[ ]	[ ]
<u>Education</u>	[ ]	[ ]
<u>Engineering</u>	[ ]	[ ]
<u>Health Professions-TOTAL</u>	[ ]	[ ]
Medical Technology	_____	_____
Nursing	_____	_____
Occupational Therapy	_____	_____
Pharmacy	_____	_____
Physical Therapy	_____	_____
Speech Pathology/Audiology	_____	_____
Other Health Professions	_____	_____
<u>Life Sciences-TOTAL</u>	[ ]	[ ]
Pre dental	_____	_____
Pre medical	_____	_____
Pre veterinary	_____	_____
Basic Medical Sciences	_____	_____
Biology	_____	_____
Botany	_____	_____
Zoology	_____	_____
Other Life Sciences	_____	_____
<u>Mathematical Sciences</u>	[ ]	[ ]
<u>Physical Sciences-TOTAL</u>	[ ]	[ ]
Chemistry	_____	_____
Physics	_____	_____
Other Physical Sciences	_____	_____
<u>Basic Social Sciences-TOTAL</u>	[ ]	[ ]
Psychology	_____	_____
Other Basic Social Sciences	_____	_____
<u>Applied Social Sciences</u>	[ ]	[ ]
<u>Trade and Industrial Training</u>	[ ]	[ ]
<u>All Other Fields</u>	[ ]	[ ]
<u>Undeclared</u>	[ ]	[ ]
<u>TOTAL JUNIOR-YEAR ENROLLMENT</u>	_____	_____

## Appendix C

### Definitions of Major Areas or Fields

Other Arts and Humanities: Includes Architecture, Fine and Applied arts, Philosophy, Religion, etc.

Education: Includes specialized teaching fields such as Education of the Handicapped, and Art Education, general teaching fields such as Elementary Education, and other education fields such as Rehabilitation Counselor Training, etc. Do not include students who are preparing to teach academic subjects such as English, Biology, Mathematics, etc. They should be reported in their academic area of specialization.

Health Professions: Includes those students preparing for Nursing, Pharmacy, and the allied health fields. Do not include students enrolled solely for first professional degrees. Premedical, Predental, and Preveterinary students should be reported in the separate items under Life Sciences.

Other Health Professions: Includes Radiological Technology, Hospital and Health Care Administration, Dental Hygiene, and other allied and public health fields.

Basic Medical Sciences: Includes Anatomy, Biochemistry, Biometrics and Biostatistics, Biophysics, Cell Biology, Microbiology, Molecular Biology, Neuroscience, Pathology, Pharmacology, Physiology, Radio Biology, Toxicology.

Other Life Sciences: Includes Agriculture, Forestry, Ecology, Embryology, Entomology, Genetics, Nutrition, Plant Physiology, Plant Pathology, etc.

Mathematical Sciences: Includes Mathematics, Statistics, Computer Sciences, Data Processing, Systems Analysis, and all related fields.

Other Physical Sciences: Includes Astronomy, Atmospheric Sciences and Meteorology, Geology, Geophysics, Metallurgy, Oceanography, Paleontology, Pharmaceutical Chemistry, etc.

Other Basic Social Sciences: Includes Anthropology, Economics, Geography, International Relations, Political Science, Government, Sociology, and General Social Sciences. History students should be reported as a separate item in Arts and Humanities.

Applied Social Sciences: Includes Industrial Relations, Public Administration, Social Work, and other applied fields.

Trade and Industrial Training: Includes students in four-year programs in such fields as Light Building Construction, Heating and Ventilation, Airplane Mechanics, Automotive Maintenance, etc. Do not include the training of teachers in such fields.

All other fields: Includes all fields other than those separately indicated. For example, City Planning, Folklore, Home Economics, Prelaw, Library Science, Military Science.

Undeclared: Includes all junior-year students who have not declared a major.

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